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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,074	06/25/2004	Kazuaki Sakaki	0171-1120PUS1	5329

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BIRCH STEWART KOLASCH & BIRCH  
PO BOX 747  
FALLS CHURCH, VA 22040-0747

EXAMINER
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SHEEHAN, JOHN P

ART UNIT	PAPER NUMBER
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1793

NOTIFICATION DATE	DELIVERY MODE
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01/10/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

## Office Action Summary

Application No.

10/500,074

Applicant(s)

SAKAKI ET AL.

Examiner

John P. Sheehan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-5,7,9-11 and 13-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4,5,14 and 18 is/are allowed.
- 6) ☒ Claim(s) 1,3,7,9-11,13, 15-17,19 and 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 7/07 10/07.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Status of the Prior Art Rejections Made in the Previous Office Action***

2. Applicant's response filed October 22, 2007 has been fully considered and has been found persuasive with respect to the prior art rejections based on Japanese Patent Document No. 2002-118009 and US Patent No. 6,623,541. The claims are now rejection as set forth below.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 5 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- I. Each of claims 5 and 11, recite that the combined thickness of the metal layer and the metal oxide and/or metal nitride layer is at least 1  $\mu\text{m}$  but not more

then 100  $\mu\text{m}$  and the metal oxide and/or metal hydride layer has a thickness of at least 0.1  $\mu\text{m}$  but not more than 100  $\mu\text{m}$ . Thus, the metal oxide and/or the metal nitride layer can have a maximum thickness of no more than 100  $\mu\text{m}$  but on the other hand the thickness of the combination of the metal layer and the metal oxide and/or the metal nitride layer cannot exceed 100  $\mu\text{m}$ . It is impossible for the metal oxide and/or the metal nitride layer to have a maximum thickness of 100  $\mu\text{m}$  and the combined thickness of the metal layer and the metal oxide and/or metal nitride layer not exceed 100  $\mu\text{m}$ ? In view of this, claims 5 and 11 are indefinite.

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 7, 9 to 11, 15, 16 19 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by or Nishiuchi et al. (Nishiuchi '590, US Patent Publication No. 2001/0030590, cited by the Examiner).

Nishiuchi '590 teaches rare earth-iron-boron sintered magnet having a composition that overlaps the rare earth-iron-boron sintered magnet composition recited in the instant claims (Nishiuchi '590, paragraphs 0059 to 0065). Nishiuchi '590 teaches that the sintered rare earth-iron-boron magnet is coated with a metal layer and

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subsequently coated with an oxide layer (Nishiuchi '590, paragraph 0011) wherein the metal layer can be among other elements tin, copper, nickel and cobalt (Nishiuchi '590, paragraph 0022) as recited in each of applicants' claims. Nishiuchi '590 teaches layer thicknesses that overlap the layer thicknesses recited in claims 11 (Nishiuchi '590, paragraphs 0012 and 0014). Nishiuchi '590 also teaches that the sintered magnet is prepared as recited in the instant claims (Nishiuchi '590, paragraph 0068) including a surface working step that is considered to be encompassed by the cutting and/or grinding step recited in applicants' claim 7. The so formed sintered magnet is plated with a metal and heat treated as recited in the instant claims under process conditions that overlap the process conditions recited in the instant claims (Nishiuchi '590, paragraphs 0024 and 27). The plating step recited in the instant claims is considered to encompass the ion plating step taught by Nishiuchi '590 in paragraph 0024. The heat treated metal coated rare earth-iron-boron sintered magnets are then coated with an oxide (Nishiuchi '590, paragraph 0012). Applicants' process claims and product claims are not considered to distinguish over Nishiuchi '590's process and product.

### ***Claim Rejections - 35 USC § 102/103***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 10, 11, 16 and 20 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Nishiuchi et al. (Nishiuchi '196, US Patent No. 6,251,196, cited in the IDS submitted June 25, 2004).

Nishiuchi '196 teaches rare earth-iron-boron sintered magnet having a composition that overlaps the rare earth-iron-boron sintered magnet composition recited in the instant claims (Nishiuchi '196, column 9, line 43 to column 10, line). Nishiuchi '196 teaches that the sintered rare earth-iron-boron magnet is coated with a metal layer and subsequently coated with an oxide layer (Nishiuchi '196, column 2, lines 51 to 64) wherein the metal film can be among other elements tin, copper, nickel and cobalt (Nishiuchi '196, column 4, lines 1 to 3) as recited in claims 10, 11, 16 and 20. Nishiuchi '196 also teaches layer thicknesses that overlap the layer thicknesses recited in claims 11 (Nishiuchi '196, column 3, lines 22 to 24 and 35 to 37).

Nishiuchi '196 and the claims differ in that Nishiuchi '196 does not teach that the metal layer is a plated layer as recited in the claims.

However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the recitation of the metal layer as a metal plated layer (claims 10, 11 and 16) and the process limitation in claim 20 that the metal plating step is done by electroplating (claim 20) are not considered to

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distinguish over the metal layer taught by Nishiuchi '196. Further, these recitations in the claims, regarding a plated metal layer, are considered to be a kin to process limitations in a product by process claims and are not considered to lend patentability to the claimed product, MPEP 2113.

"[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695,698,227 USPQ 964,966 (Fed. Cir.1985).

### ***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1, 3, 13 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al. (Anderson '303, US Patent No. 5,382,303, cited in the IDS submitted July 19, 2007) in view of Shinichi (Shinichi '016, Japanese Patent Document NO. 08-181016, cited in the IDS submitted July 19, 2007).

Anderson '303 teaches a sintered 2-17 samarium-cobalt magnet having a composition that overlaps the alloy composition recited in applicants' claims (column 4, lines 46 to 61). Anderson '303 also teaches a method of making the sintered 2-17

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samarium-cobalt magnet which is the same as the process recited in applicants' claims (column 11, line 53 to column 12, line 20).

Shinichi '016 teaches treating a 2-17 samarium-cobalt magnet so as protect the magnet from damage such as cracking (Abstract). Shinichi '016's process comprises nickel plating the 2-17 samarium cobalt magnet as recited in each of the instant claims and heat treating the nickel coated magnet for 1 to 4 hours at a temperature of 700<sup>0</sup>C to 900<sup>0</sup>C in an inert atmosphere as recited in the claims. The heat treatment time of 1 to 4 hours taught by Shinichi '016 is encompassed by the heat treatment time of 10 minutes to 50 hours recited in claim 1. Shinichi '016's heat treatment temperature of 700<sup>0</sup>C to 900<sup>0</sup>C overlaps the claimed heat treatment temperature of 80 to 850<sup>0</sup>C recited in claim 1. Shinichi '016's inert atmosphere is encompassed by the use of argon or nitrogen recited in applicants' claim 3.

The claims and Anderson '303 differ in that Anderson '303 does not teach coating the sintered 2-27 samarium-cobalt magnet.

However, one of ordinary skill in the art at the time the invention was made would have been motivated to nickel plate Anderson '303's sintered 2-17 samarium-cobalt magnet so as to protect the magnet from damage as taught by Shinichi '016.

***Allowable Subject Matter***

12. Claims 4, 5, 14 and 18 are allowed.



***Response to Arguments***

13. Applicant's arguments filed October 22, 2007 regarding the rejections based on Nishiuchi '196 and Nishiuchi '590 have been fully considered but they are not persuasive.

Applicants' arguments that Nishiuchi'196 and Nishiuchi'590 do not teach an electroplating layer or an electroplating step are not persuasive. Regarding Nishiuchi '196, the recitation of the metal layer as a metal plated layer (claims 10, 11 and 16) and the process limitation in claim 20 that the metal plating step is done by electroplating (claim 20) are not considered to distinguish over the metal layer taught by Nishiuchi '196. Further, these recitations in the claims, regarding a plated metal layer, are considered to be a kin to process limitations in a product by process claims and are not considered to lend patentability to the claimed product, MPEP 2113.

"[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

Regarding Nishiuchi '590, Nishiuchi '590 does teach ion plating (paragraph 0024) and the plating step recited in the instant claims is considered to encompass the ion plating step taught by Nishiuchi '590 in paragraph 0024.

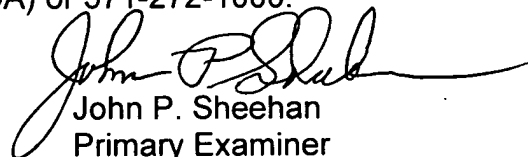
***Conclusion***

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Sheehan whose telephone number is (571) 272-1249. The examiner can normally be reached on T-F (7:30-5:00) Second Monday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
John P. Sheehan  
Primary Examiner  
Art Unit 1793

Jps